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<160> 30

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<211> 398

<212> PRT

<213> Mouse

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Ser Arg Leu Leu Met Glu Gly Ser Arg Glu Asp Thr Ser Gly Thr Ser
35 40 45

Ala Ala Leu Lys Thr Leu Trp Ser Pro Thr Thr Pro Val Pro Arg Thr
50 55 60

Arg Asn Ser Thr Tyr Leu Asp Glu Lys Thr Thr Gln Ile Thr Glu Lys
65 70 75 80

Cys Lys Asp Leu Gln Tyr Ser Leu Asn Ser Leu Ser Asn Lys Thr Arg
85 90 95

Arg Tyr Ser Glu Asp Asp Tyr Leu Gln Thr Ile Thr Asn Ile Gln Arg
100 105 110

Cys Pro Trp Asn Arg Gln Ala Glu Glu Tyr Asp Asn Phe Arg Ala Lys
115 120 125

Leu Ala Ser Cys Cys Asp Ala Ile Gln Asp Phe Val Val Ser Gln Asn
130 135 140

Asn Thr Pro Val Gly Thr Asn Met Ser Tyr Glu Val Glu Ser Lys Lys

145 150 155 160

His Ile Pro Ile Arg Glu Asn Ile Phe His Met Phe Pro Val Ser Gln

165 170 175

Pro Phe Val Asp Tyr Pro Tyr Asn Gln Cys Ala Val Val Gly Asn Gly

180 185 190

Gly Ile Leu Asn Lys Ser Leu Cys Gly Ala Glu Ile Asp Lys Ser Asp

195 200 205

Phe Val Phe Arg Cys Asn Leu Pro Pro Ile Thr Gly Ser Ala Ser Lys

210 215 220

Asp Val Gly Ser Lys Thr Asn Leu Val Thr Val Asn Pro Ser Ile Ile

225 230 235 240

Thr Leu Lys Tyr Gln Asn Leu Lys Glu Lys Lys Ala Gln Phe Leu Glu

245 250 255

Asp Ile Ser Thr Tyr Gly Asp Ala Phe Leu Leu Leu Pro Ala Phe Ser

260 265 270

Tyr Arg Ala Asn Thr Gly Ile Ser Phe Lys Val Tyr Gln Thr Leu Lys

275 280 285

Glu Ser Lys Met Arg Gln Lys Val Leu Phe Phe His Pro Arg Tyr Leu

290 295 300

Arg His Leu Ala Leu Phe Trp Arg Thr Lys Gly Val Thr Ala Tyr Arg

305 310 315 320

Leu Ser Thr Gly Leu Met Ile Ala Ser Val Ala Val Glu Leu Cys Glu

325 330 335

Asn Val Lys Leu Tyr Gly Phe Trp Pro Phe Ser Lys Thr Ile Glu Asp

340 345 350

Thr Pro Leu Ser His His Tyr Tyr Asp Asn Met Leu Pro Lys His Gly

355 360 365

Phe His Gln Met Pro Lys Glu Tyr Ser Gln Met Leu Gln Leu His Met
370 375 380

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385 390 395

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Met Arg Ser Gly Gly Thr Leu Phe Ala Leu Ile
1 5 10

ggc agc ctg atg ctg ctg ctc ctc ctg cgt atg ctc tgg tgc cca gcc 157
Gly Ser Leu Met Leu Leu Leu Leu Leu Arg Met Leu Trp Cys Pro Ala
15 20 25

gac gcg cct gcc cgc tcc agg ctg ttg atg gag gga agc aga gag gac 205
Asp Ala Pro Ala Arg Ser Arg Leu Leu Met Glu Gly Ser Arg Glu Asp
30 35 40

acc agt ggt acc tca gct gca ctg aag aca ctc tgg agc ccg aca acc 253
Thr Ser Gly Thr Ser Ala Ala Leu Lys Thr Leu Trp Ser Pro Thr Thr
45 50 55

ccg gta cca cgc acc agg aac agc aca tat ctg gat gag aag aca acc 301
Pro Val Pro Arg Thr Arg Asn Ser Thr Tyr Leu Asp Glu Lys Thr Thr
60 65 70 75

caa ata aca gag aaa tgc aaa gat ctg caa tat agc ttg aac tct tta 349
Gln Ile Thr Glu Lys Cys Lys Asp Leu Gln Tyr Ser Leu Asn Ser Leu
80 85 90

tct aac aaa acg aga cgg tac tct gag gat gac tac ctc cag acc atc 397
Ser Asn Lys Thr Arg Arg Tyr Ser Glu Asp Asp Tyr Leu Gln Thr Ile
95 100 105

aca aac ata cag aga tgc cca tgg aac cgg caa gca gaa gaa tat gac 445
Thr Asn Ile Gln Arg Cys Pro Trp Asn Arg Gln Ala Glu Glu Tyr Asp
110 115 120

aat ttt aga gca aaa ctg gct tcc tgt tgc gat gcc att caa gac ttc 493
Asn Phe Arg Ala Lys Leu Ala Ser Cys Cys Asp Ala Ile Gln Asp Phe
125 130 135

gtg gtt tcc cag aac aac act cca gtg ggg act aac atg agc tac gag 541
Val Val Ser Gln Asn Asn Thr Pro Val Gly Thr Asn Met Ser Tyr Glu
140 145 150 155

gtg gaa agc aag aaa cac atc ccc att cga gag aac att ttc cac atg 589
Val Glu Ser Lys Lys His Ile Pro Ile Arg Glu Asn Ile Phe His Met
160 165 170

ttt cca gtg tcg cag cct ttt gtg gac tat ccc tat aac cag tgt gca 637
Phe Pro Val Ser Gln Pro Phe Val Asp Tyr Pro Tyr Asn Gln Cys Ala
175 180 185

gtg gtt ggt aat ggg gga att ctc aac aag tct ctc tgc gga gca gaa 685
Val Val Gly Asn Gly Gly Ile Leu Asn Lys Ser Leu Cys Gly Ala Glu
190 195 200

att gat aaa tct gac ttc gtc ttc agg tgt aac ctc ccc cca atc aca 733
Ile Asp Lys Ser Asp Phe Val Phe Arg Cys Asn Leu Pro Pro Ile Thr
205 210 215

ggg agc gct agt aaa gat gtt gga agc aaa aca aat ctt gtg act gtc 781
Gly Ser Ala Ser Lys Asp Val Gly Ser Lys Thr Asn Leu Val Thr Val
220 225 230 235

aat ccc agc att ata acc ctg aag tac cag aat ttg aag gag aag aaa 829
Asn Pro Ser Ile Ile Thr Leu Lys Tyr Gln Asn Leu Lys Glu Lys Lys
240 245 250

gca cag ttt ttg gag gac atc tcc acc tat gga gat gca ttc ctc ctc 877
Ala Gln Phe Leu Glu Asp Ile Ser Thr Tyr Gly Asp Ala Phe Leu Leu
255 260 265

ctg cca gca ttt tcc tat cgg gcc aac aca ggc atc tct ttt aaa gtc 925
Leu Pro Ala Phe Ser Tyr Arg Ala Asn Thr Gly Ile Ser Phe Lys Val
270 275 280

tac caa aca ctc aaa gag tca aaa atg agg caa aag gtt ctc ttc ttc 973
Tyr Gln Thr Leu Lys Glu Ser Lys Met Arg Gln Lys Val Leu Phe Phe
285 290 295

cat ccc agg tac ctg aga cac ctc gct ctt ttc tgg aga act aaa ggg 1021
His Pro Arg Tyr Leu Arg His Leu Ala Leu Phe Trp Arg Thr Lys Gly
300 305 310 315

gtg act gca tac cgc ttg tcc aca ggc ttg atg att gca agt gtc gct 1069
Val Thr Ala Tyr Arg Leu Ser Thr Gly Leu Met Ile Ala Ser Val Ala
320 325 330

gtg gaa ctg tgt gaa aac gtg aag ctc tac gga ttc tgg cct ttc tct 1117
Val Glu Leu Cys Glu Asn Val Lys Leu Tyr Gly Phe Trp Pro Phe Ser
335 340 345

aag act atc gaa gac acc cca ctc agt cac cac tac tat gat aac atg 1165
Lys Thr Ile Glu Asp Thr Pro Leu Ser His His Tyr Tyr Asp Asn Met
350 355 360

tta cct aag cat ggt ttc cac cag atg cct aaa gaa tac agc caa atg 1213
Leu Pro Lys His Gly Phe His Gln Met Pro Lys Glu Tyr Ser Gln Met
365 370 375

ctc cag ctc cat atg aga gga atc ctc aaa ctg caa ttc agc aaa tgt 1261
Leu Gln Leu His Met Arg Gly Ile Leu Lys Leu Gln Phe Ser Lys Cys
370 385 390 395

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Glu Thr Ala
398

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Ala Arg Ile Leu Val Glu Glu Ser Arg Glu Ala Thr His Gly Thr Pro
35 40 45

Ala Ala Leu Arg Thr Leu Arg Ser Pro Ala Thr Ala Val Pro Arg Ala
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Thr Asn Ser Thr Tyr Leu Asn Glu Lys Ser Leu Gln Leu Thr Glu Lys
65 70 75 80

Cys Lys Asn Leu Gln Tyr Gly Ile Glu Ser Phe Ser Asn Lys Thr Lys
85 90 95

Gly Tyr Ser Glu Asn Asp Tyr Leu Gln Ile Ile Thr Asp Ile Gln Ser
100 105 110
Cys Pro Trp Lys Arg Gln Ala Glu Glu Tyr Ala Asn Phe Arg Ala Lys
115 120 125
Leu Ala Ser Cys Cys Asp Ala Val Gln Asn Phe Val Val Ser Gln Asn
130 135 140
Asn Thr Pro Val Gly Thr Asn Met Ser Tyr Glu Val Glu Ser Lys Lys
145 150 155 160
Glu Ile Pro Ile Lys Lys Asn Ile Phe His Met Phe Pro Val Ser Gln
165 170 175
Pro Phe Val Asp Tyr Pro Tyr Asn Gln Cys Ala Val Val Gly Asn Gly
180 185 190
Gly Ile Leu Asn Lys Ser Leu Cys Gly Thr Glu Ile Asp Lys Ser Asp
195 200 205
Phe Val Phe Arg Cys Asn Leu Pro Pro Thr Thr Gly Asp Val Ser Lys
210 215 220
Asp Val Gly Ser Lys Thr Asn Leu Val Thr Ile Asn Pro Ser Ile Ile
225 230 235 240
Thr Leu Lys Tyr Gly Asn Leu Lys Glu Lys Lys Ala Leu Phe Leu Glu
245 250 255
Asp Ile Ala Thr Tyr Gly Asp Ala Phe Phe Phe Leu Pro Ala Phe Ser
260 265 270
Phe Arg Ala Asn Thr Gly Thr Ser Phe Lys Val Tyr Tyr Thr Leu Glu
275 280 285
Glu Ser Lys Ala Arg Gln Lys Val Leu Phe Phe His Pro Lys Tyr Leu
290 295 300
Lys Asp Leu Ala Leu Phe Trp Arg Thr Lys Gly Val Thr Ala Tyr Arg

305 310 315 320

Leu Ser Thr Gly Leu Met Ile Thr Ser Val Ala Val Glu Leu Cys Lys

325 330 335

Asn Val Lys Leu Tyr Gly Phe Trp Pro Phe Ser Lys Thr Val Glu Asp

340 345 350

Ile Pro Val Ser His His Tyr Tyr Asp Asn Lys Leu Pro Lys His Gly

355 360 365

Phe His Gln Met Pro Lys Glu Tyr Ser Gln Ile Leu Gln Leu His Met

370 375 380

Lys Gly Ile Leu Lys Leu Gln Phe Ser Lys Cys Glu Val Ala

385 390 395

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atg cgg ccg ggg ggc gca ctg ctc gcc ctg ctc gcc agc ctg ctg ctg 139

Met Arg Pro Gly Gly Ala Leu Leu Ala Leu Leu Ala Ser Leu Leu Leu

1 5 10 15

ctg ctg ctg ctg cgc ctg ctc tgg tgc ccg gca gac gcg ccc ggc cgc 187

Leu Leu Leu Leu Arg Leu Leu Trp Cys Pro Ala Asp Ala Pro Gly Arg

20 25 30

gcc agg att ctg gtg gag gaa agc agg gag gcc acc cac ggc acc ccc 235

Ala Arg Ile Leu Val Glu Glu Ser Arg Glu Ala Thr His Gly Thr Pro

35 40 45

gca gcg ctg agg acg ctc cgg agc ccg gcg acc gcg gta ccg cgc gcc 283
Ala Ala Leu Arg Thr Leu Arg Ser Pro Ala Thr Ala Val Pro Arg Ala
50 55 60

act aac agc aca tat ctg aat gag aag tcg ctc caa ctg acg gag aaa 331
Thr Asn Ser Thr Tyr Leu Asn Glu Lys Ser Leu Gln Leu Thr Glu Lys
65 70 75 80

tgc aaa aat ctg caa tat ggc att gag tct ttc tct aac aaa acg aaa 379
Cys Lys Asn Leu Gln Tyr Gly Ile Glu Ser Phe Ser Asn Lys Thr Lys
85 90 95

ggg tat tca gag aac gac tac ctt cag att atc aca gat ata cag agt 427
Gly Tyr Ser Glu Asn Asp Tyr Leu Gln Ile Ile Thr Asp Ile Gln Ser
100 105 110

tgt cca tgg aaa cgg caa gca gaa gaa tat gca aat ttt aga gcc aaa 475
Cys Pro Trp Lys Arg Gln Ala Glu Glu Tyr Ala Asn Phe Arg Ala Lys
115 120 125

ctt gct tcc tgc tgt gat gct gtt caa aac ttt gtt gtt tct cag aat 523
Leu Ala Ser Cys Cys Asp Ala Val Gln Asn Phe Val Val Ser Gln Asn
130 135 140

aac act cca gtt ggg act aat atg agt tac gag gtg gaa agc aaa aaa 571
Asn Thr Pro Val Gly Thr Asn Met Ser Tyr Glu Val Glu Ser Lys Lys
145 150 155 160

gaa atc cca att aag aag aac att ttt cat atg ttt cca gtg tcc cag 619
Glu Ile Pro Ile Lys Lys Asn Ile Phe His Met Phe Pro Val Ser Gln
165 170 175

cct ttt gtg gac tac cct tat aat cag tgt gca gtg gtc gga aat ggg 667
Pro Phe Val Asp Tyr Pro Tyr Asn Gln Cys Ala Val Val Gly Asn Gly
180 185 190

gga att ctg aat aag tct ctc tgt gga act gaa ata gat aaa tcc gac 715
Gly Ile Leu Asn Lys Ser Leu Cys Gly Thr Glu Ile Asp Lys Ser Asp
195 200 205

ttc gtt ttt agg tgt aac cta ccc cca acc aca gga gat gtt agt aaa 763
Phe Val Phe Arg Cys Asn Leu Pro Pro Thr Thr Gly Asp Val Ser Lys
210 215 220

gat gtt ggc agt aaa aca aat ctt gtg act ata aat cca agc atc ata 811
Asp Val Gly Ser Lys Thr Asn Leu Val Thr Ile Asn Pro Ser Ile Ile
225 230 235 240

act ctg aaa tat ggg aac tta aag gaa aaa aaa gcc cta ttt ttg gag 859
Thr Leu Lys Tyr Gly Asn Leu Lys Glu Lys Lys Ala Leu Phe Leu Glu
245 250 255

gac att gca acc tat gga gat gca ttt ttt ttt ctg cca gca ttt tcc 907
Asp Ile Ala Thr Tyr Gly Asp Ala Phe Phe Phe Leu Pro Ala Phe Ser
260 265 270

ttc agg gcc aac acg ggt acc tct ttc aaa gta tac tac acg ctc gaa 955
Phe Arg Ala Asn Thr Gly Thr Ser Phe Lys Val Tyr Tyr Thr Leu Glu
275 280 285

gag tct aaa gca aga caa aag gtt cta ttt ttc cat ccc aag tac ctg 1003
Glu Ser Lys Ala Arg Gln Lys Val Leu Phe Phe His Pro Lys Tyr Leu
290 295 300

aaa gat ctg gcc ctt ttc tgg aga act aaa ggt gtg act gca tac cgc 1051
Lys Asp Leu Ala Leu Phe Trp Arg Thr Lys Gly Val Thr Ala Tyr Arg
305 310 315 320

ttg tcc acc ggc ttg atg atc aca agt gtt gca gtg gaa ctg tgt aaa 1099
Leu Ser Thr Gly Leu Met Ile Thr Ser Val Ala Val Glu Leu Cys Lys
325 330 335

aat gtg aag ctg tat gga ttc tgg ccc ttc tct aaa act gta gaa gac 1147
Asn Val Lys Leu Tyr Gly Phe Trp Pro Phe Ser Lys Thr Val Glu Asp
340 345 350
ata cct gtc agc cat cac tat tat gac aac aag cta cct aaa cat ggt 1195
Ile Pro Val Ser His His Tyr Tyr Asp Asn Lys Leu Pro Lys His Gly
355 360 365
ttc cat cag atg ccc aaa gaa tac agc cag atc ctc caa ctt cac atg 1243
Phe His Gln Met Pro Lys Glu Tyr Ser Gln Ile Leu Gln Leu His Met
370 375 380
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Lys Gly Ile Leu Lys Leu Gln Phe Ser Lys Cys Glu Val Ala
385 390 395
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20 25 30
Ser Asn Pro Ala Glu Pro Val Pro Ser Ser Leu Ser Phe Leu Glu Thr
35 40 45
Arg Arg Leu Leu Pro Val Gln Gly Lys Gln Arg Ala Ile Met Gly Ala

50 55 60

Ala His Glu Pro Ser Pro Pro Gly Gly Leu Asp Ala Arg Gln Ala Leu

65 70 75 80

Pro Arg Ala His Pro Ala Gly Ser Phe His Ala Gly Pro Gly Asp Leu

85 90 95

Gln Lys Trp Ala Gln Ser Gln Asp Gly Phe Glu His Lys Glu Phe Phe

100 105 110

Ser Ser Gln Val Gly Arg Lys Ser Gln Ser Ala Phe Tyr Pro Glu Asp

115 120 125

Asp Asp Tyr Phe Phe Ala Ala Gly Gln Pro Gly Trp His Ser His Thr

130 135 140

Gln Gly Thr Leu Gly Phe Pro Ser Pro Gly Glu Pro Gly Pro Arg Glu

145 150 155 160

Gly Ala Phe Pro Ala Ala Gln Val Gln Arg Arg Arg Val Lys Lys Arg

165 170 175

His Arg Arg Gln Arg Arg Ser His Val Leu Glu Glu Gly Asp Asp Gly

180 185 190

Asp Arg Leu Tyr Ser Ser Met Ser Arg Ala Phe Leu Tyr Arg Leu Trp

195 200 205

Lys Gly Asn Val Ser Ser Lys Met Leu Asn Pro Arg Leu Gln Lys Ala

210 215 220

Met Lys Asp Tyr Leu Thr Ala Asn Lys His Gly Val Arg Phe Arg Gly

225 230 235 240

Lys Arg Glu Ala Gly Leu Ser Arg Ala Gln Leu Leu Cys Gln Leu Arg

245 250 255

Ser Arg Ala Arg Val Arg Thr Leu Asp Gly Thr Glu Ala Pro Phe Ser

260 265 270

Ala Leu Gly Trp Arg Arg Leu Val Pro Ala Val Pro Leu Ser Gln Leu
275 280 285

His Pro Arg Gly Leu Arg Ser Cys Ala Val Val Met Ser Ala Gly Ala
290 295 300

Ile Leu Asn Ser Ser Leu Gly Glu Glu Ile Asp Ser His Asp Ala Val
305 310 315 320

Leu Arg Phe Asn Ser Ala Pro Thr Arg Gly Tyr Glu Lys Asp Val Gly
325 330 335

Asn Lys Thr Thr Ile Arg Ile Ile Asn Ser Gln Ile Leu Thr Asn Pro
340 345 350

Ser His His Phe Ile Asp Ser Ser Leu Tyr Lys Asp Val Ile Leu Val
355 360 365

Ala Trp Asp Pro Ala Pro Tyr Ser Ala Asn Leu Asn Leu Trp Tyr Lys
370 375 380

Lys Pro Asp Tyr Asn Leu Phe Thr Pro Tyr Ile Gln His Arg Gln Arg
385 390 395 400

Asn Pro Asn Gln Pro Phe Tyr Ile Leu His Pro Lys Phe Ile Trp Gln
405 410 415

Leu Trp Asp Ile Ile Gln Glu Asn Thr Lys Glu Lys Ile Gln Pro Asn
420 425 430

Pro Pro Ser Ser Gly Phe Ile Gly Ile Leu Ile Met Met Ser Met Cys
435 440 445

Arg Glu Val His Val Tyr Glu Tyr Ile Pro Ser Val Arg Gln Thr Glu
450 455 460

Leu Cys His Tyr His Glu Leu Tyr Tyr Asp Ala Ala Cys Thr Leu Gly
465 470 475 480

Ala Tyr His Pro Leu Leu Tyr Glu Lys Leu Leu Val Gln Arg Leu Asn

485 490 495

Met Gly Thr Gln Gly Asp Leu His Arg Lys Gly Lys Val Val Leu Pro

500 505 510

Gly Phe Gln Ala Val His Cys Pro Ala Pro Ser Pro Val Ile Pro His

515 520 525

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tcattctgccacccatctgcattaagacacaaggtgctgaccgcagagacctgcc 175

atg aaa cca cac ttg aag caa tgg aga caa cga atg ctt ttc gga ata 223
Met Lys Pro His Leu Lys Gln Trp Arg Gln Arg Met Leu Phe Gly Ile

1 5 10 15

ttc gct tgg ggg ctc ctc ttt ttg ctg att ttc atc tac ttc acc gac 271
Phe Ala Trp Gly Leu Leu Phe Leu Leu Ile Phe Ile Tyr Phe Thr Asp

20 25 30

agc aac ccc gct gag cct gta ccc agc tcc ctc tcc ttc ctg gag acc 319
Ser Asn Pro Ala Glu Pro Val Pro Ser Ser Leu Ser Phe Leu Glu Thr

35 40 45

agg agg ctc ctg ccg gtg cag ggg aag cag cgg gcc atc atg ggc gcc 367
Arg Arg Leu Leu Pro Val Gln Gly Lys Gln Arg Ala Ile Met Gly Ala

50 55 60

gca cat gag ccc tcc ccg cct ggg ggc ctg gac gca cgc cag gcg ctg 415
Ala His Glu Pro Ser Pro Pro Gly Gly Leu Asp Ala Arg Gln Ala Leu

65 70 75 80

ccc cgc gcc cac cca gcc ggt tcc ttt cat gcg ggg cct gga gac ctg 463
Pro Arg Ala His Pro Ala Gly Ser Phe His Ala Gly Pro Gly Asp Leu
85 90 95

cag aaa tgg gcc cag tcc caa gat ggg ttt gaa cat aaa gag ttt ttt 511
Gln Lys Trp Ala Gln Ser Gln Asp Gly Phe Glu His Lys Glu Phe Phe
100 105 110

tca tcc cag gtg ggg aga aaa tct caa agt gct ttc tac ccg gag gat 559
Ser Ser Gln Val Gly Arg Lys Ser Gln Ser Ala Phe Tyr Pro Glu Asp
115 120 125

gac gac tac ttt ttt gct gct ggt cag cca ggg tgg cac agc cac act 607
Asp Asp Tyr Phe Phe Ala Ala Gly Gln Pro Gly Trp His Ser His Thr
130 135 140

cag ggg aca ttg gga ttc cct tcc ccc ggg gag cca ggc cca cgg gag 655
Gln Gly Thr Leu Gly Phe Pro Ser Pro Gly Glu Pro Gly Pro Arg Glu
145 150 155 160

ggg gct ttt ccg gct gca cag gtc cag agg agg cgg gtg aag aag agg 703
Gly Ala Phe Pro Ala Ala Gln Val Gln Arg Arg Arg Val Lys Lys Arg
165 170 175

cac cgg agg cag aga agg agc cac gtg ttg gag gag ggc gac gac ggc 751
His Arg Arg Gln Arg Arg Ser His Val Leu Glu Glu Gly Asp Asp Gly
180 185 190

gac agg ctg tac tcc tcc atg tcc agg gcc ttc ctg tac cgg ctc tgg 799
Asp Arg Leu Tyr Ser Ser Met Ser Arg Ala Phe Leu Tyr Arg Leu Trp
195 200 205

aag ggg aac gtc tct tcc aaa atg ctg aac ccg cgc ctg cag aag gcg 847
Lys Gly Asn Val Ser Ser Lys Met Leu Asn Pro Arg Leu Gln Lys Ala

210 215 220

atg aag gat tac ctg acc gcc aac aag cac ggg gtg cgc ttc cgc ggg 895
Met Lys Asp Tyr Leu Thr Ala Asn Lys His Gly Val Arg Phe Arg Gly
225 230 235 240

aag cgg gag gcc ggg ctg agc agg gca cag ctg ctg tgc cag ctg cgg 943
Lys Arg Glu Ala Gly Leu Ser Arg Ala Gln Leu Leu Cys Gln Leu Arg
245 250 255

agc cgc gcg cgc gtg cgg acg ctg gac ggc acc gag gcg ccc ttt tct 991
Ser Arg Ala Arg Val Arg Thr Leu Asp Gly Thr Glu Ala Pro Phe Ser
260 265 270

gcg ctg ggc tgg cgg cgc ctg gtg ccc gcc gtg ccc ctg agc cag ctg 1039
Ala Leu Gly Trp Arg Arg Leu Val Pro Ala Val Pro Leu Ser Gln Leu
275 280 285

cac ccc cgc ggc ctg cgc agc tgc gct gtc gtc atg tct gca ggc gca 1087
His Pro Arg Gly Leu Arg Ser Cys Ala Val Val Met Ser Ala Gly Ala
290 295 300

atc ctc aac tct tcc ttg ggc gag gaa ata gat tct cat gat gcg gtt 1135
Ile Leu Asn Ser Ser Leu Gly Glu Glu Ile Asp Ser His Asp Ala Val
305 310 315 320

ttg aga ttt aac tct gct cct aca cgt ggt tat gag aaa gat gtt ggg 1183
Leu Arg Phe Asn Ser Ala Pro Thr Arg Gly Tyr Glu Lys Asp Val Gly
325 330 335

aat aaa acc acc ata cgc atc att aat tcg cag att ctg acc aac ccc 1231
Asn Lys Thr Thr Ile Arg Ile Ile Asn Ser Gln Ile Leu Thr Asn Pro
340 345 350

agc cat cac ttc att gac agt tca ctg tat aaa gac gtc att ttg gtg 1279
Ser His His Phe Ile Asp Ser Ser Leu Tyr Lys Asp Val Ile Leu Val

355 360 365

gcc tgg gac cct gcc cca tat tcc gca aat ctt aac ctg tgg tac aaa 1327
Ala Trp Asp Pro Ala Pro Tyr Ser Ala Asn Leu Asn Leu Trp Tyr Lys

370 375 380

aaa ccg gat tac aac ctg ttc act cca tat att cag cat cgt cag aga 1375
Lys Pro Asp Tyr Asn Leu Phe Thr Pro Tyr Ile Gln His Arg Gln Arg

385 390 395 400

aac cca aat cag cca ttt tac att ctt cat cct aaa ttt ata tgg cag 1423
Asn Pro Asn Gln Pro Phe Tyr Ile Leu His Pro Lys Phe Ile Trp Gln

405 410 415

ctc tgg gat att atc cag gag aac act aaa gag aag att caa cca aac 1471
Leu Trp Asp Ile Ile Gln Glu Asn Thr Lys Glu Lys Ile Gln Pro Asn

420 425 430

cca cca tct tct ggt ttc att gga atc ctc atc atg atg tcc atg tgc 1519
Pro Pro Ser Ser Gly Phe Ile Gly Ile Leu Ile Met Met Ser Met Cys

435 440 445

aga gag gtg cac gtg tat gaa tat atc cca tcc gtg cgg cag acg gag 1567
Arg Glu Val His Val Tyr Glu Tyr Ile Pro Ser Val Arg Gln Thr Glu

450 455 460

ctg tgc cac tac cac gag ctg tac tac gac gca gcc tgc acc ctc ggg 1615
Leu Cys His Tyr His Glu Leu Tyr Tyr Asp Ala Ala Cys Thr Leu Gly

465 470 475 480

gcg tac cac cca cta ctc tat gag aag ctc ctg gtg cag cgc ctg aac 1663
Ala Tyr His Pro Leu Leu Tyr Glu Lys Leu Leu Val Gln Arg Leu Asn

485 490 495

atg ggc acg cag ggg gat ttg cat cgc aag ggc aag gtg gtt ctt cct 1711
Met Gly Thr Gln Gly Asp Leu His Arg Lys Gly Lys Val Val Leu Pro

500 505 510

ggc ttc cag gcg gtg cac tgc cct gca cca agt cca gtc att cca cac 1759
Gly Phe Gln Ala Val His Cys Pro Ala Pro Ser Pro Val Ile Pro His

515 520 525

tct taaaaagggtttcttgggaatcaatgtgcaatggtaca 1800
Ser

<210> 7
<211> 524
<212> PRT
<213> Mouse
<400> 7

Met Lys Pro His Leu Lys Gln Trp Arg Gln Arg Met Leu Phe Gly Ile
1 5 10 15

Phe Val Trp Gly Leu Leu Phe Leu Ala Ile Phe Ile Tyr Phe Thr Asn
20 25 30

Ser Asn Pro Ala Ala Pro Met Pro Ser Ser Phe Ser Phe Leu Glu Ser
35 40 45

Arg Gly Leu Leu Pro Leu Gln Gly Lys Gln Arg Val Ile Met Gly Ala
50 55 60

Leu Gln Glu Pro Ser Leu Pro Arg Ser Leu Asp Ala Ser Lys Val Leu
65 70 75 80

Leu Asp Ser His Pro Glu Asn Pro Phe His Pro Trp Pro Gly Asp Pro
85 90 95

Gln Lys Trp Asp Gln Ala Pro Asn Gly Phe Asp Asn Gly Asp Glu Phe
100 105 110

Phe Thr Ser Gln Val Gly Arg Lys Ser Gln Ser Ala Phe Tyr Pro Glu
115 120 125

Glu Asp Ser Tyr Phe Phe Val Ala Asp Gln Pro Glu Leu Tyr His His

130 135 140

Arg Gln Gly Ala Leu Glu Leu Pro Ser Pro Gly Glu Thr Ser Trp Arg

145 150 155 160

Ser Gly Pro Val Gln Pro Lys Gln Lys Leu Leu His Pro Arg Arg Gly

165 170 175

Ser Leu Pro Glu Glu Ala Tyr Asp Ser Asp Met Leu Ser Ala Ser Met

180 185 190

Ser Arg Ala Phe Leu Tyr Arg Leu Trp Lys Gly Ala Val Ser Ser Lys

195 200 205

Met Leu Asn Pro Arg Leu Gln Lys Ala Met Arg Tyr Tyr Met Ser Phe

210 215 220

Asn Lys His Gly Val Arg Phe Arg Arg Arg Gly Arg Arg Glu Ala Thr

225 230 235 240

Arg Thr Gly Pro Glu Leu Leu Cys Glu Met Arg Arg Arg Val Arg Val

245 250 255

Arg Thr Leu Asp Gly Arg Glu Ala Pro Phe Ser Gly Leu Gly Trp Arg

260 265 270

Pro Leu Val Pro Gly Val Pro Leu Ser Gln Leu His Pro Arg Gly Leu

275 280 285

Ser Ser Cys Ala Val Val Met Ser Ala Gly Ala Ile Leu Asn Ser Ser

290 295 300

Leu Gly Glu Glu Ile Asp Ser His Asp Ala Val Leu Arg Phe Asn Ser

305 310 315 320

Ala Pro Thr Arg Gly Tyr Glu Lys Asp Val Gly Asn Lys Thr Thr Val

325 330 335

Arg Ile Ile Asn Ser Gln Ile Leu Ala Asn Pro Ser His His Phe Ile

340 345 350

Asp Ser Ala Leu Tyr Lys Asp Val Ile Leu Val Ala Trp Asp Pro Ala
355 360 365

Pro Tyr Ser Ala Asn Leu Asn Leu Trp Tyr Lys Lys Pro Asp Tyr Asn
370 375 380

Leu Phe Thr Pro Tyr Ile Gln His Arg Arg Lys Tyr Pro Thr Gln Pro
385 390 395 400

Phe Tyr Ile Leu His Pro Lys Phe Ile Trp Gln Leu Trp Asp Ile Ile
405 410 415

Gln Glu Asn Thr Arg Glu Lys Ile Gln Pro Asn Pro Pro Ser Ser Gly
420 425 430

Phe Ile Gly Ile Leu Ile Met Met Ser Met Cys Lys Glu Val His Val
435 440 445

Tyr Glu Tyr Ile Pro Ser Val Arg Gln Thr Glu Leu Cys His Tyr His
450 455 460

Glu Leu Tyr Tyr Asp Ala Ala Cys Thr Leu Gly Ala Tyr His Pro Leu
465 470 475 480

Leu Tyr Glu Lys Leu Leu Val Gln Arg Leu Asn Thr Gly Thr Gln Ala
485 490 495

Asp Leu His His Lys Gly Lys Val Val Leu Pro Gly Phe Gln Thr Leu
500 505 510

Arg Cys Pro Val Thr Ser Pro Asn Asn Thr His Ser
515 520

<210> 8
<211> 1611
<212> DNA
<213> Mouse
<400> 8

ca atg aaa cca cac ttg aag caa tgg cga caa cga atg ctc ttt gga ata 50

Met Lys Pro His Leu Lys Gln Trp Arg Gln Arg Met Leu Phe Gly Ile

1 5 10 15

ttt gtt tgg ggg ctc ctc ttt ttg gca att ttc atc tac ttc acc aac 98

Phe Val Trp Gly Leu Leu Phe Leu Ala Ile Phe Ile Tyr Phe Thr Asn

20 25 30

agc aat cct gcg gca cct atg ccc agc tcc ttt tcc ttc ctg gag agc 146

Ser Asn Pro Ala Ala Pro Met Pro Ser Ser Phe Ser Phe Leu Glu Ser

35 40 45

cgt ggg ctc ctg cct cta cag ggc aag cag cgg gtc atc atg ggc gct 194

Arg Gly Leu Leu Pro Leu Gln Gly Lys Gln Arg Val Ile Met Gly Ala

50 55 60

ttg cag gaa ccc tct ttg ccc aga agt ttg gat gca agc aaa gtg ctt 242

Leu Gln Glu Pro Ser Leu Pro Arg Ser Leu Asp Ala Ser Lys Val Leu

65 70 75 80

ctg gac agc cac cct gag aac cct ttc cac cct tgg cct ggg gac cca 290

Leu Asp Ser His Pro Glu Asn Pro Phe His Pro Trp Pro Gly Asp Pro

85 90 95

cag aaa tgg gat cag gcc cca aat ggc ttt gac aat ggg gat gag ttt 338

Gln Lys Trp Asp Gln Ala Pro Asn Gly Phe Asp Asn Gly Asp Glu Phe

100 105 110

ttt aca tcc cag gtt ggg agg aaa tca caa agc gct ttc tat ccc gag 386

Phe Thr Ser Gln Val Gly Arg Lys Ser Gln Ser Ala Phe Tyr Pro Glu

115 120 125

gaa gat agc tat ttt ttt gtt gcg gat cag cct gag ttg tac cac cac 434

Glu Asp Ser Tyr Phe Phe Val Ala Asp Gln Pro Glu Leu Tyr His His

130 135 140

agg cag ggt gca ctg gag ctg cca tct cca ggg gag aca tca tgg cga 482
Arg Gln Gly Ala Leu Glu Leu Pro Ser Pro Gly Glu Thr Ser Trp Arg
145 150 155 160
tca gga cct gtt cag ccc aag cag aag ctg ctt cac cca agg cga ggc 530
Ser Gly Pro Val Gln Pro Lys Gln Lys Leu Leu His Pro Arg Arg Gly
165 170 175
agc ttg cct gag gaa gcc tat gac agc gac atg ctg tca gcc tcc atg 578
Ser Leu Pro Glu Glu Ala Tyr Asp Ser Asp Met Leu Ser Ala Ser Met
180 185 190
tcg aga gcc ttc ctg tac cgg ctc tgg aag ggg gcc gtg tcc tct aag 626
Ser Arg Ala Phe Leu Tyr Arg Leu Trp Lys Gly Ala Val Ser Ser Lys
195 200 205
atg ttg aac ccg cgc ctg cag aag gcc atg cgt tac tac atg tcc ttc 674
Met Leu Asn Pro Arg Leu Gln Lys Ala Met Arg Tyr Tyr Met Ser Phe
210 215 220
aac aag cat ggt gtg cgc ttc cgc agg cgg ggt cgg cgt gaa gct aca 722
Asn Lys His Gly Val Arg Phe Arg Arg Arg Gly Arg Arg Glu Ala Thr
225 230 235 240
cgt aca ggg ccg gag ctg ctg tgt gag atg cgc aga cgt gtg cgt gtg 770
Arg Thr Gly Pro Glu Leu Leu Cys Glu Met Arg Arg Arg Val Arg Val
245 250 255
cgc acg ttg gac ggc aga gag gcg ccc ttc tcg ggg ctg ggc tgg cgg 818
Arg Thr Leu Asp Gly Arg Glu Ala Pro Phe Ser Gly Leu Gly Trp Arg
260 265 270
cct ctg gta cca ggt gta cct ctg agc cag ttg cac ccg cgc ggt ctg 866
Pro Leu Val Pro Gly Val Pro Leu Ser Gln Leu His Pro Arg Gly Leu
275 280 285

agc agc tgc gca gtt gtc atg tct gcc ggt gcc atc ctg aac tcc tcc 914
Ser Ser Cys Ala Val Val Met Ser Ala Gly Ala Ile Leu Asn Ser Ser
290 295 300

ttg ggg gag gaa atc gat tct cat gat gca gtt ttg aga ttt aac tct 962
Leu Gly Glu Glu Ile Asp Ser His Asp Ala Val Leu Arg Phe Asn Ser
305 310 315 320

gcc cct acc cgt ggc tac gag aaa gat gtc gga aat aaa acc aca gta 1010
Ala Pro Thr Arg Gly Tyr Glu Lys Asp Val Gly Asn Lys Thr Thr Val
325 330 335

cgc atc att aat tct cag att ctg gcc aac ccc agc cat cac ttc att 1058
Arg Ile Ile Asn Ser Gln Ile Leu Ala Asn Pro Ser His His Phe Ile
340 345 350

gac agt gct tta tat aaa gat gtt atc ctg gta gcc tgg gat cct gct 1106
Asp Ser Ala Leu Tyr Lys Asp Val Ile Leu Val Ala Trp Asp Pro Ala
355 360 365

cct tat tct gcc aat ctt aac ctg tgg tat aag aag cca gat tac aac 1154
Pro Tyr Ser Ala Asn Leu Asn Leu Trp Tyr Lys Lys Pro Asp Tyr Asn
370 375 380

ctt ttc act cca tat atc cag cat cgc cgg aaa tac ccg act cag cca 1202
Leu Phe Thr Pro Tyr Ile Gln His Arg Arg Lys Tyr Pro Thr Gln Pro
385 390 395 400

ttt tac att ctt cac ccc aag ttc ata tgg cag ctt tgg gac att atc 1250
Phe Tyr Ile Leu His Pro Lys Phe Ile Trp Gln Leu Trp Asp Ile Ile
405 410 415

cag gag aat aca agg gag aag ata cag ccc aac cca cca tct tct ggt 1298
Gln Glu Asn Thr Arg Glu Lys Ile Gln Pro Asn Pro Pro Ser Ser Gly
420 425 430

ttt att gga atc ctc atc atg atg tcc atg tgt aaa gag gtg cac gtg 1346
Phe Ile Gly Ile Leu Ile Met Met Ser Met Cys Lys Glu Val His Val
435 440 445

tat gag tac atc cca tct gtt cga cag aca gag ctt tgc cac tac cat 1394
Tyr Glu Tyr Ile Pro Ser Val Arg Gln Thr Glu Leu Cys His Tyr His
450 455 460

gag ctg tac tac gac gca gcc tgc acc ttg ggg gcc tac cac cca ctg 1442
Glu Leu Tyr Tyr Asp Ala Ala Cys Thr Leu Gly Ala Tyr His Pro Leu
465 470 475 480

ctc tat gaa aag cta ctg gtg cag cgc ctt aac aca ggc acc cag gca 1490
Leu Tyr Glu Lys Leu Leu Val Gln Arg Leu Asn Thr Gly Thr Gln Ala
485 490 495

gac ttg cat cac aag ggc aag gta gtc ttg cca ggc ttc cag acc ctt 1538
Asp Leu His His Lys Gly Lys Val Val Leu Pro Gly Phe Gln Thr Leu
500 505 510

cgg tgt cca gta acc agc ccc aac aat aca cat tct taa 1577
Arg Cys Pro Val Thr Ser Pro Asn Asn Thr His Ser
515 520

aatggaactc ttgggaactg atgtgcaata aggt 1611

<210> 9
<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic DNA
<400> 9
cttttctgga gaactaaagg 20

<210> 10

<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic DNA
<400> 10
aattgcagtt tgaggattcc 20

<210> 11
<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic DNA
<400> 11
tggctcagga tgagatcggg 20

<210> 12
<211> 22
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic DNA
<400> 12
tactagcgct ccctgtgatt gg 22

<210> 13
<211> 30
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic DNA
<400> 13
tgctctcgag cccagccgac gcgcctgccc 30

<210> 14
<211> 30
<212> DNA

<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic DNA
<400> 14

tattctcgag ctaagaaacg ttaagccgtt 30

<210> 15
<211> 30
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic DNA
<400> 15

caattgacat atctgaatga gaagtcgctc 30

<210> 16
<211> 22
<212> DNA
<213> Artificial Sequence
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<223> Description of Artificial Sequence: Synthetic DNA
<400> 16

tactaacatc tcctgtggtt gg 22

<210> 17
<211> 20
<212> DNA
<213> Artificial Sequence
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<223> Description of Artificial Sequence: Synthetic DNA
<400> 17

ccagtgtccc agccttttgt 20

<210> 18
<211> 20

<212> DNA
<213> Artificial Sequence
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<223> Description of Artificial Sequence: Synthetic DNA
<400> 18

tgagtgggga agctttggtc 20

<210> 19
<211> 30
<212> DNA
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<400> 19

gacaatgggg atgagttttt tacatcccag 30

<210> 20
<211> 29
<212> DNA
<213> Artificial Sequence
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<400> 20

cgatttcctc ccccaaggag gagttcagg 29

<210> 21
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acgttggacg gcagagaggc gcccttctcg 30

<210> 22

<211> 30
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<400> 22

accttattgc acatcagttc ccaagagttc 30

<210> 23
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<212> DNA
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<400> 23

caatgaaacc acacttgaag caatggcgac 30

<210> 24
<211> 30
<212> DNA
<213> Artificial Sequence
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<223> Description of Artificial Sequence: Synthetic DNA
<400> 24

cgcaacaaaa aaatagctat cttcctcggg 30

<210> 25
<211> 30
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic DNA
<400> 25

tcatctactt cacctcgagc aaccccgctg 30

<210> 26
<211> 30
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic DNA
<400> 26

catccaattg accaacagca atcctgcggc 30

<210> 27
<211> 23
<212> DNA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic DNA
<400> 27

ttatgattca caccaacctg aag 23

<210> 28
<211> 23
<212> DNA
<213> Artificial Sequence
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<223> Description of Artificial Sequence: Synthetic DNA
<400> 28

ctttgtactt gttcatgctt agg 23

<210> 29
<211> 23
<212> DNA
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<223> Description of Artificial Sequence: Synthetic DNA
<400> 29

agacgtcatt ttggtggcct ggg 23

<210> 30
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<223> Description of Artificial Sequence: Synthetic DNA
<400> 30
ttaagagtgt ggaatgactg g 21